Claims

What is claimed is:

1. A method comprising:

acquiring a first electromagnetic physiological signal;

filtering the signal for a latency range;

performing a source reconstruction for the signal; and

acquiring a second electromagnetic physiological signal while the source reconstruction is being performed on the first electromagnetic signal.

2. The method of claim 1, wherein the step of performing the source reconstruction includes computing a single equivalent current dipole.

3. The method of claim 1, wherein the step of performing the source reconstruction includes computing a moving dipole.

4. The method of claim 1, wherein the step of performing the source reconstruction includes computing a rotating dipole.

5. The method of claim 1, wherein the step of performing the source reconstruction includes computing a regional dipole.

6. The method of claim 1, wherein the step of performing the source reconstruction includes computing a fixed dipole.

7. The method of claim 1, wherein the step of performing the source reconstruction includes using a concentric sphere volume conductor model.

8. The method of claim 1, wherein the step of performing the source reconstruction includes using a Boundary Element Method (BEM) volume conductor model.

9. The method of claim 1, wherein the step of performing the source reconstruction includes using a Finite Element Method (FEM) model.

10. The method of claim 1, and further comprising the step of averaging the filtered data.

11. The method of claim 1, and further comprising the step of applying a dipole onto an anatomical image.

12. The method of claims, and further comprising creating a scatter plot of dipole locations.

13. The method of claim 1, and further comprising a signal to noise analysis of the required neurophysiological data.

14. An apparatus comprising:

a sensor for acquiring an electromagnetic physiological signal;

a signal processing circuit in communication with the sensor; and

a processor in communication with the signal processing circuit and configured to support multiple threads of execution with one thread being a measurement module and a second thread being a source reconstruction module.

15. The apparatus of claim 14, and further comprising a display showing source reconstruction results overlayed onto anatomical data.

16. The apparatus of claim 14, wherein the sensor acquires MEG data.

17. The apparatus of claim 14, wherein the sensor acquires EEG data.

18. The apparatus of claim 14, wherein the sensor acquires ECG data.

19. The apparatus of claim 14, wherein the sensor acquires MCG data.

20. A method of testing comprising:

acquiring an electromagnetic physiological signal through a test setup;

determining the latency of the signal;

performing a source reconstruction of the data within a predetermined latency range; and

using the source reconstruction to modify the test setup.